Reference Manual

MON-2697-COM

Monitoring System For ILS-2600/3600

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itl International Tower Lighting, LLC™

Front Matter

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ITL, LLC guarantees that every MON-2697-COM monitoring system is free from physical defects of material and workmanship under normal use for one (1) year from the date of purchase. If the product proves defective during this warranty period, please contact ITL, LLC in order to obtain a Return Authorization Number, RMA.

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Please send any comments regarding the manual to support_doc@itl-llc.com.

Safety Warning

This equipment uses lethal voltages which can cause serious injury and/or death. Do not attempt to service this equipment with line power applied.

Never rely on just one switch to power down a high voltage supply. Measure for voltages using a voltmeter to ensure that power is off and has been completely removed.

Do not wear any jewelry when servicing this equipment. Gold and silver are excellent conductors of electricity.

Battery Warning and Disposal

There is danger of explosion if the included sealed lead-acid battery is replaced incorrectly. Only replace the battery with the same or equivalent type recommended by the battery manufacturer. Dispose of used batteries according to the battery manufacturer's instructions.

Do not incinerate, disassemble, or puncture the battery.

For questions or details please contact The Battery *Council International at (312) 664-6610*, or your local waste agency.

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Introduction

Congratulations, and thank you for choosing an ITL monitoring system.

We trust that ITL's reputation for technical excellence, experience in product development, commitment to our customers and testing will ensure your complete satisfaction.

You have chosen one of the most technologically innovative monitoring systems for monitoring tower lighting systems available on the market today. This product is the result of many years of engineering with extensive input from field service personnel.

This manual covers MON-2697-COM monitoring system which can function as either hardwired Ethernet or wireless monitoring system with the addition of a wireless modem. Please consult ITL technical support for specific modem selections.

Please take the time to read and familiarize yourself with this manual. It contains the information necessary to install, test and troubleshoot the MON-2697-COM monitoring system or consult the Quick Installation Guide.

Product Description

ITL's MON-2697-COM is designed to provide a complete monitoring solution for ILS-2600 and ILS-3600 LED tower lighting systems. The monitoring system's rich set of features is directly applicable to monitoring all aspects of these two LED lighting systems.

All MON-2697-COM controllers are SNMP enabled and support SNMP v1 and SNMP v2c capabilities to allow for M2M communication. Additionally, the system has built-in web pages to provide a more intuitive human interface and is supported by most web browsers.

Both, hardwired Ethernet connection and wireless modem communication are also supported.

Typical wireless applications include the use of a secure software tunnel provided by a third party for communication between the MON-2697-COM (Agent) equipment and network management system (NMS) or SNMP manager.

Specifications

Environment

Temperature	-40ºC to +55ºC
Humidity	less than 95% relative humidity (non-condensing)

Mechanical

Board Assembly Dimensions	Height:	9.00” (229mm)
	Width:	7.50” (191mm)
	Depth w/o Modem:	1.50” (38.1mm)
	Depth w/Modem:	3.00” (76.2mm)
Weight w/o Modem	1.4 lbs (0.620Kg) max	
Weight with Modem	2.4 lbs (1.075Kg) max	

Electrical

Input Power	120/240VAC at 60Hz, 12VA (max.)
Suppression	45 Joule, 275V, Input Power 23 Joule, 275V, Spare Relay
Spare Output Relay	120/230 VAC, 1 Amp, Form-C

Communication Module

Digi IX10

Installation

The MON-2697-COM monitoring system installs directly on the interior door of the ILS-2600 or ILS-3600 enclosure as indicated below.

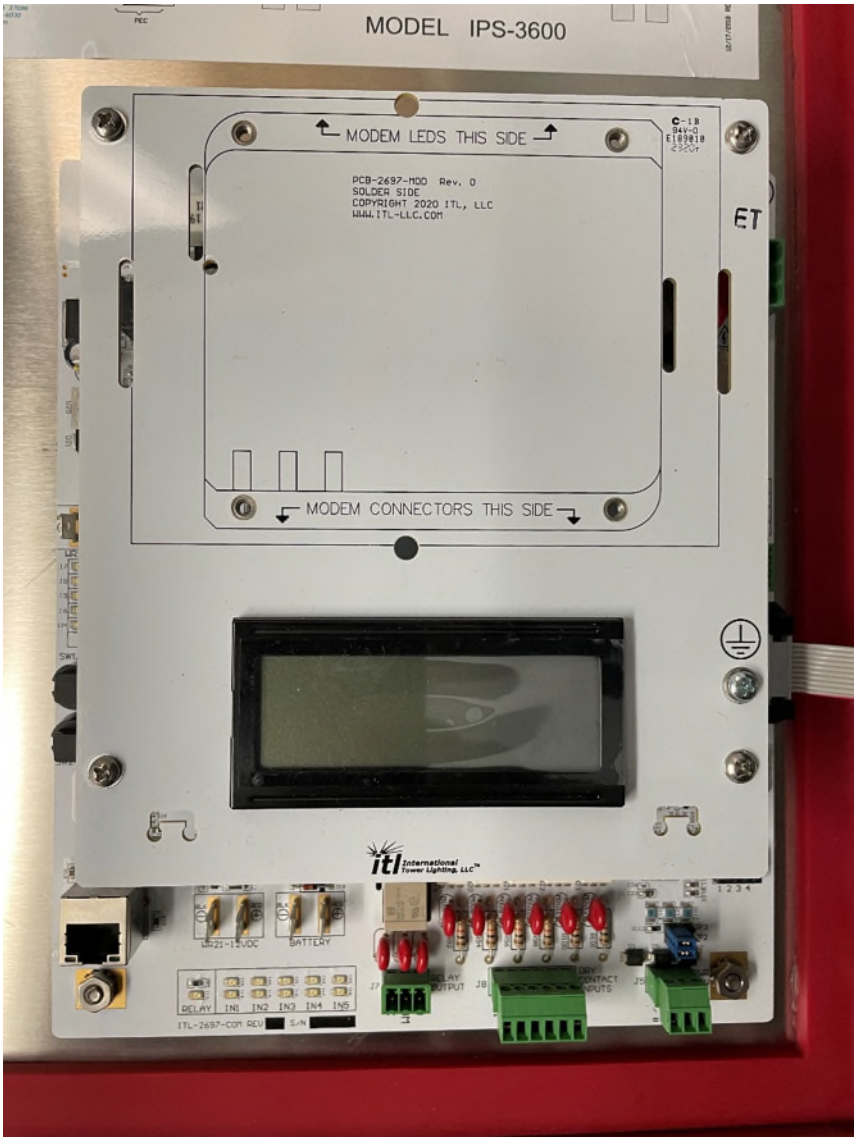

Figure 1: MON-2697-COM Circuit Board Assembly

Unpacking your Monitoring System

Please examine the shipping containers and their content thoroughly upon receipt and report any potential shipping damage to the carrier.

Tools for Installation

The following tools are suggested for mounting of the MON-2697-COM monitoring system.

- Nut Driver and 9mm Socket

Quick Installation Guide

The quick start guide shows how to install the MON-2697 series monitoring system. The guide provides only basic instructions to personnel familiar with these types of installations. For more details, refer to this document or contact ITL technical support staff.

- Install MON-2697-COM to interior of ILS-2600/3600 enclosure door
- Connect
  - 3 pin Phoenix style power connector
  - Ribbon cable (RS485 communication)
  - Ethernet cable for hardwire connection or modem w/antenna
- Apply power to unit and observe functioning LEDs
- Open web browser with above IP number, use ‘admin/Admin2017’ for default username/password
- Configure SNMP and basic network settings as needed via webpages

Circuit Board

1. Ethernet Connection

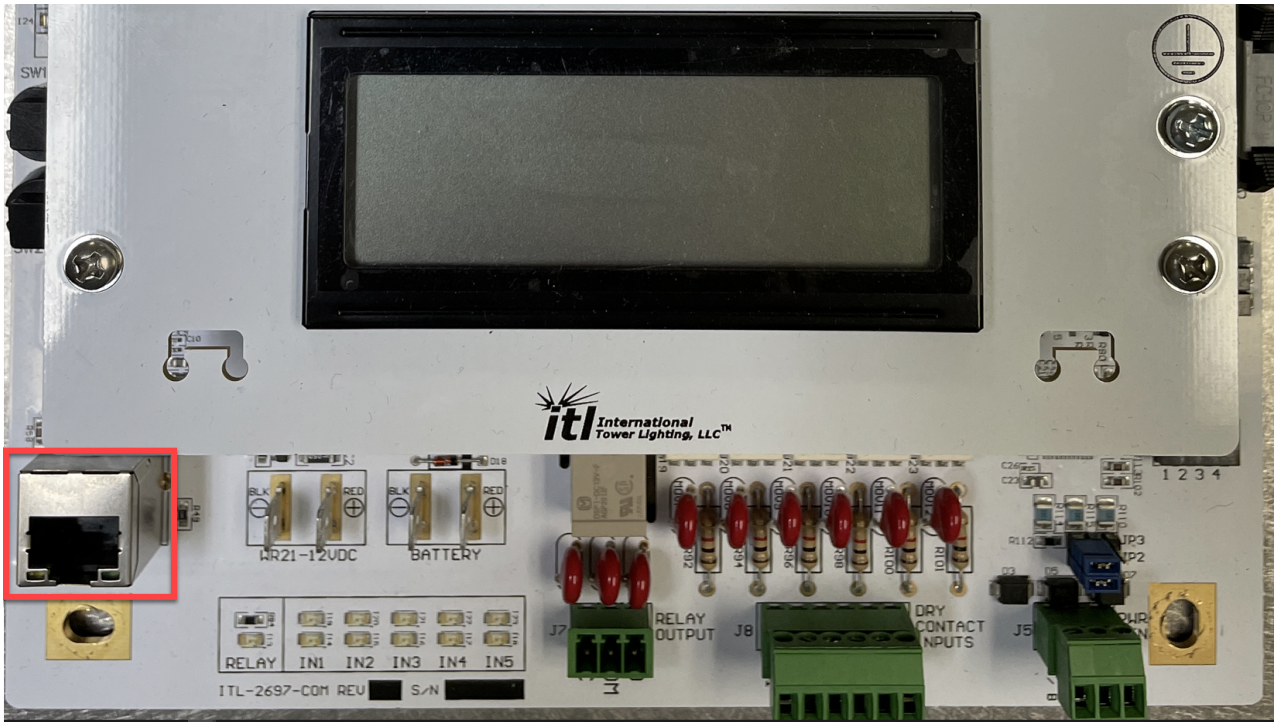

Figure 2: MON-2697-COM Ethernet Connection

2. Modem Power and Battery Connections

Observe polarity when connecting and disconnecting the battery. Note all battery warnings in the Safety Warning section.

Observe polarity when connecting the modem power.

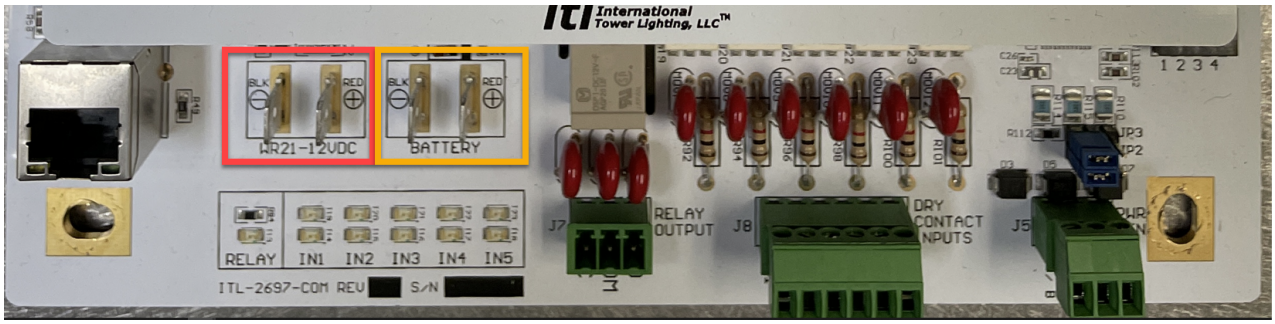

Figure 3: Modem power (12VDC) shown in red box. Backup battery input shown in yellow box.

3. Modem Power (5VDC)

Observe polarity when connecting the modem power.

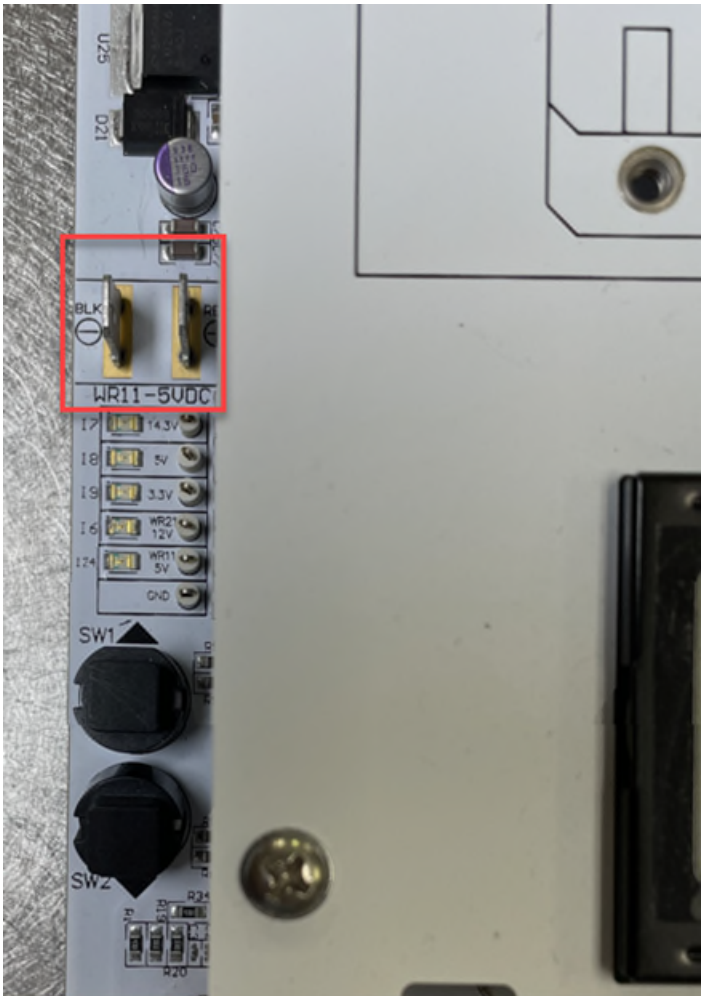

Figure 4: 5VDC modem power output.

Web Pages

The MON-2697-COM has built-in web pages for a more intuitive human interface. The web pages can be accessed with most web browsers by directly typing in the device's IP address into the browser's address bar. The IP address is indicated on the MON-2697-COM's on-board the LCD display. An example on how to access the product via a web browser is shown below:

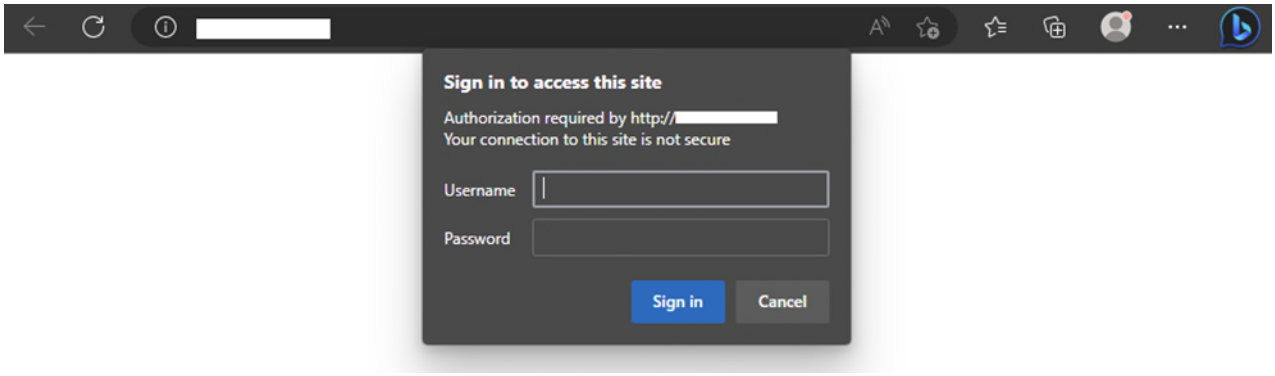

Figure 5: MON-2697-COM Web Login

The default login is:

User Name: admin
Password: Admin2017

After successful login the equipment will display the Alarm Status page as indicated in the example below. Please browse the webpages' menus for further details.

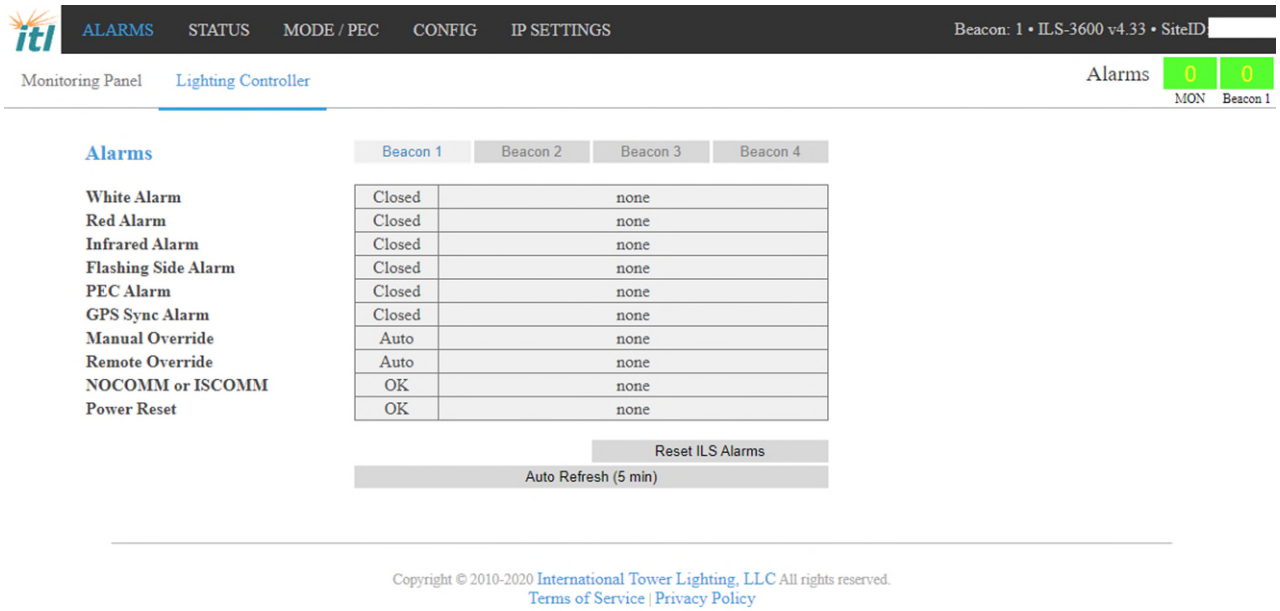

Figure 6: MON-2697-COM Alarm Page

SNMP

1. Object Identifiers (OIDs) and Names

With the exception of system Object Identifiers (OIDs), all MON-2697-COM OIDs will start with the ITL enterprise specific group number, IEEE Organizationally Unique Identifier (OUI), 43.6.1.4.1.35367 and branch from there as indicated below. The following objects are provided as detailed below. The product specific MIB can also be downloaded from ITL's corporate webpage via the product's build-in SNMP page. A typical link is as follows:

https://www.itl-llc.com/cms_assets/monitoring/2682_ANSI.mib

System OIDs

The following OIDs are read only and follow the

OID Branch: iso(1).org(3).dod(6).internet(1).mgmt(2).system(1)

OID	Name	Description
1.3.6.1.2.1.1.1	sysDescr	Description
1.3.6.1.2.1.1.2	sysObjectID	Object ID
1.3.6.1.2.1.1.3	sysUpTime	Up Time
1.3.6.1.2.1.1.4	sysContact	Contact
1.3.6.1.2.1.1.5	sysName	Name
1.3.6.1.2.1.1.6	sysLocation	Location
1.3.6.1.2.1.1.7	sysServices	Services

Figure 7: System OIDs

Product OIDs

The following OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.10.1	prodName	Site ID
1.3.6.1.4.1.35367.10.2	prodVersion	Firmware Version
1.3.6.1.4.1.35367.10.3	prodDate	Firmware Version Date

Figure 8: Product OIDs

Trap Setup OIDs

The MON-2697-COM supports sending traps to up to two destination IP addresses. Traps can be enabled and configured through a SNMP manager or the MON-2697-COM's build-in web pages. If enabled, traps are sent for any change-of-state of MON-2697-COM parameters which have been configured through either the web pages or otherwise.

Traps are automatically retransmitted until they have been acknowledged (see Alarm OIDs). The MON-2697 will retransmit traps in the following time interval until acknowledged: 1 minute, 5 minutes, 15 minutes, 30 minutes, 1 hour, 1 hour … for a total of 24 hours. After 24 hours the timer will be reset and the sequence will repeat in the same order as long as the event causing the trap is still present or active.

The following OIDs are read / write with the exception of the trap index which is read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.11.1.1.1.1	snmpTrapReceiverNumber	Trap Index, 0..1
1.3.6.1.4.1.35367.11.1.1.1.2	snmpTrapEnabled	Trap Enable, 0..1
1.3.6.1.4.1.35367.11.1.1.1.3	snmpTrapReceiverIPAddress	Trap Destination IP, 0..1
1.3.6.1.4.1.35367.11.1.1.1.4	snmpTrapCommunityReadString	Trap Community Read Strings, 0..1
1.3.6.1.4.1.35367.11.1.1.1.5	snmpTrapCommunityWriteString	Trap Community Write Strings, 0..1

Figure 9: Trap Setup OIDs

MON-2697-COM Alarm OIDs

Only the acknowledge OID is read/write, all other OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.11.2.1.1.1	comm2697AlarmID	Alarm Index, 0..2
1.3.6.1.4.1.35367.11.2.1.1.2	comm2697AlarmIState	Alarm Active, 0..2 (0=inactive, 1=active)
1.3.6.1.4.1.35367.11.2.1.1.3	comm2697AlarmIAcknowledged	Alarm Acknowledge, 0..2 (0=not acknowledged, 1=acknowledged)
1.3.6.1.4.1.35367.11.2.1.1.4	comm2697AlarmIDescription	Alarm Description, ASCII string, 0..2

Figure 10: MON-2697-COM Alarm OIDs

Alarms are acknowledged by issuing a SNMP Set to the corresponding OID. This will prevent the alarm from being resent unless the alarm re-occurs.

MON-2697-COM Configuration / Status OIDs

All other OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.11.3.1.1.1	comm2697InstBcnID	Beacon Installed Index, 0..3
1.3.6.1.4.1.35367.11.3.1.1.2	comm2697InstBcnState	Beacon Installed State, 0..3 (0=not installed, 1=installed)
1.3.6.1.4.1.35367.11.4.1	comm2697MdmOnAfterPwrLoss	ASCII string
1.3.6.1.4.1.35367.11.4.2	comm2697MdmRstAfterRUOK	ASCII string
1.3.6.1.4.1.35367.11.4.3	comm2697RlyDescription	ASCII string
1.3.6.1.4.1.35367.11.4.4	comm2697RlyState	ASCII string
1.3.6.1.4.1.35367.11.5.1	comm2697BatBackupPercentage	ASCII string

Figure 11: MON-2697-COM Configuration OIDs

ILS-2600/2600 Beacon #1 … #4 OID Overview

The MON-2697-COM can monitor up to 4 ILS-2600/3600 beacons daisy chained via the ILS-2600/3600's RS-485 communication interface.

Beacons can be installed and un-installed via the build-in webpages. NOCOMM alarms apply for any installed beacon not found and/or for any un-installed beacon found.

The OIDs for all beacons are identical with the exception of the initial offset as detailed below:

Beacon #1	.1.3.6.1.4.1.35367.12
Beacon #2	.1.3.6.1.4.1.35367.13
Beacon #3	.1.3.6.1.4.1.35367.14
Beacon #4	.1.3.6.1.4.1.35367.15

ILS-2600/2600 Beacon #1 Alarm OIDs

Only the acknowledge OID is read/write, all other OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.12.1.1.1.1	bcn1AlarmID	Alarm Index, 0..9
1.3.6.1.4.1.35367.12.1.1.1.2	bcn1AlarmState	Alarm Active, 0..9 (0=inactive, 1=active)
1.3.6.1.4.1.35367.12.1.1.1.3	bcn1AlarmAcknowledged	Alarm Acknowledge, 0..9 (0=not acknowledged, 1=acknowledged)
1.3.6.1.4.1.35367.12.1.1.1.4	bcn1AlarmDescription	Alarm Description, ASCII string, 0..9

Figure 12: ILS-2600/3600 Beacon #1Alarm OIDs

Alarms are acknowledged by issuing a SNMP Set to the corresponding OID. This will prevent the alarm from being resent unless the alarm re-occurs.

ILS-2600/2600 Beacon #1 Configuration OIDs

All OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.12.2.1	bcn1FirmwareVersion	ASCII string
1.3.6.1.4.1.35367.12.2.2	bcn1LineFrequency	ASCII string
1.3.6.1.4.1.35367.12.2.3	bcn1SystemType	ASCII string
1.3.6.1.4.1.35367.12.2.4	bcn1CatenaryEnabled	ASCII string
1.3.6.1.4.1.35367.12.2.5	bcn1InfraredEnabled	ASCII string
1.3.6.1.4.1.35367.12.2.6	bcn1NightFlashRate	ASCII string
1.3.6.1.4.1.35367.12.2.7	bcn1NumberSidelights	ASCII string
1.3.6.1.4.1.35367.12.2.8	bcn1SidelightFunction	ASCII string
1.3.6.1.4.1.35367.12.2.9	bcn1Installed	ASCII string

Figure 13: ILS-2600/3600 Beacon #1 Configuration OIDs

ILS-2600/2600 Beacon #1 Status OIDs

All OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.12.3.1	bcn1DayFlashCount	ASCII string
1.3.6.1.4.1.35367.12.3.2	bcn1WhiteNightFlashCount	ASCII string
1.3.6.1.4.1.35367.12.3.3	bcn1RedNightFlashCount	ASCII string
1.3.6.1.4.1.35367.12.3.4	bcn1InfraredFlashCount	ASCII string
1.3.6.1.4.1.35367.12.3.5	bcn1SidelightsSensed	ASCII string
1.3.6.1.4.1.35367.12.3.6	bcn1BoardTemperature	ASCII string
1.3.6.1.4.1.35367.12.3.7	bcn1HighVoltageBank1	ASCII string
1.3.6.1.4.1.35367.12.3.8	bcn1HighVoltageBank2	ASCII string
1.3.6.1.4.1.35367.12.3.9	bcn1CurrentWhiteStr1	ASCII string
1.3.6.1.4.1.35367.12.3.10	bcn1CurrentWhiteStr2	ASCII string
1.3.6.1.4.1.35367.12.3.11	bcn1CurrentWhiteStr3	ASCII string
1.3.6.1.4.1.35367.12.3.12	bcn1CurrentWhiteStr4	ASCII string
1.3.6.1.4.1.35367.12.3.13	bcn1CurrentWhiteStr5	ASCII string
1.3.6.1.4.1.35367.12.3.14	bcn1CurrentWhiteStr6	ASCII string
1.3.6.1.4.1.35367.12.3.15	bcn1CurrentRedStr	ASCII string
1.3.6.1.4.1.35367.12.3.16	bcn1CurrentInfraredStr	ASCII string

Figure 14: ILS-2600/3600 Beacon #1 Status OIDs

ILS-2600/2600 Beacon #1 Mode/PEC OIDs

All OIDs are read only.

OID Branch: iso(1).org(3).dod(6).internet(1).private(4).itl(35367)

OID	Name	Description
1.3.6.1.4.1.35367.12.4.1	bcn1CurrentOperating Mode	ASCII string (Day, White Night, Red Night)
1.3.6.1.4.1.35367.12.4.2	bcn1PECMode	ASCII string (Day, Night)
1.3.6.1.4.1.35367.12.4.3	bcn1ManualSwitchMo de	ASCII string (Day, Night, Auto)
1.3.6.1.4.1.35367.12.4.4	bcn1RemoteOverride Mode	ASCII string (Day, Night, Auto)

Figure 15: ILS-2600/3600 Beacon #1 Mode/PEC OIDs

Technical Support and Contact Info

Contact Info

For information on the ITL lighting and/or monitoring systems' basic functions, refer to this manual and the accompanying drawings. For additional help with the installation or operation of any ITL products, please contact ITL, LLC at one of the following below.

Web and Internet Sites

Corporate home page: http://www.itl-llc.com

Monitoring System Info: http://www.itl-llc.com/monitoring-systems.html

Customer Support Technicians

7:00 AM - 7:00 PM Central Time

US and Canada call: +1-615-256-6030

Toll Free: +1-866-624-8309

Email: support@itl-llc.com

RMA

Please contact ITL, LLC before returning equipment for repair and obtain a Return Material Authorization (RMA) number.

Revision	Description of Change	Date	Preparer / Approval
0	Initial Release	06/02/2023	Prepared By: Ryan Gregory Approved By: Joshua Crowne